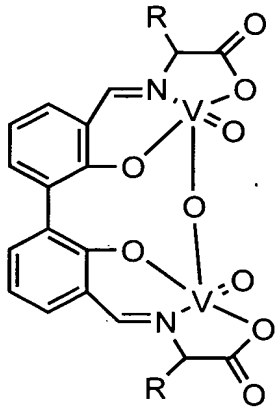
## WHAT IS CLAIMED IS

1. A chiral catalyst used for oxidative coupling of naphthols, which is a novel vanadium complex of Schiff's base formed by a chiral amino acid and a formyl biphenol or its derivatives, wherein it has the general formula:



where R represents a benzyl, an isopropyl, an isobutyl or a tertiary butyl and the configuration of the amino acid is *R* or *S*.

2. The chiral catalyst according to claim 1, wherein said R is a benzyl when the configuration of the amino acid is *S*.

3. The chiral catalyst according to claim 1, wherein said R is an isopropyl when the configuration of the amino acid is *S*.

4. The chiral catalyst according to claim 1, wherein said R is an isobutyl when the configuration of the amino acid is *S*.

5. The chiral catalyst according to claim 1, wherein said R is a tertiary butyl when the configuration of the amino acid is *S*.

6. The chiral catalyst according to claim 1, wherein said R is a benzyl when the configuration of the amino acid is *R*.

7. The chiral catalyst according to claim 1, wherein said R is an isopropyl when the configuration of the amino acid is *R*.

8. The chiral catalyst according to claim 1, wherein said R is an isobutyl when the configuration of the amino acid is *R*.

9. The chiral catalyst according to claim 1, wherein said R is a tertiary butyl when the

configuration of the amino acid is *R*.

10. A process for preparing a chiral catalyst used for oxidative coupling of naphthols, which consists of following steps:

a. To water was solved a chiral amino acid and sodium acetate;

b. A solution of 3'3-bi-formly –biphenol in a mixed reagent of EtOH and THF was added to the solution obtained by step a, and the reaction mixture was stirred for 1~3 hours at 70~90 °C;

c. An aqueous solution of 25%$VOSO_4$ was added to the resulting mixture, then it was cooled to ambient temperature; after stirring it for 1~3 hours, the catalyst was produced.

11. The process for preparing a chiral catalyst according to claim 10, wherein in step a the solution was stirred for 5~15 minutes at 40~60 °C when a chiral amino acid and sodium acetate was solved to water.

12. The process for preparing a chiral catalyst according to claim 10, wherein in step b the weight ratio of the mixed reagent to 3'3-bi-formly –biphenol is 20~25:1 and in mixed reagent the volume ratio of EtOH to THF is 1:1.

13. The process for preparing a chiral catalyst according to claim 10, wherein the molar ratio of the chiral amino acid, sodium acetate, water, 3'3-bi-formly–biphenol to $VOSO_4$ is 1.2:2.4:100~150: 0.5: 1.1.

14. A use of a chiral catalyst used for oxidative coupling of naphthol for the preparation of binaphthol or its derivatives, wherein with naphthol or its derivatives as stating material and oxygen as oxidize agent, 1~10mol% of the chiral catalyst can catalyze the oxidative coupling reaction to produce high optically pure binaphthol or its derivatives.